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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,224	11/02/2001	Rajan Kapur	399	2693

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EXAMINER	
LEUNG, CHRISTINA Y	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/007,224	KAPUR ET AL.	
	Examiner	Art Unit	
	Christina Y. Leung	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 November 2001_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-42_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-42_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _02 November 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _3-5-02; 11-21-03_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sondur et al. (US 6,243,746 B1) in view of Wilson et al. (Wilson, Brian J. et al. "Multiwavelength Optical Networking Management and Control," Journal of Lightwave Technology, vol. 18, no. 12, December 2000, pp. 2038-2057).

Regarding claim 1, Sondur et al. disclose a network element in an optical communications network (Figures 1 and 2), the network element comprising:

a data collection application program interface (API) for receiving a request from a client for network topology information (engine 206, which is part of topology service 112, provides an API; column 5, lines 1-3 and 26-29; column 8, lines 26-35);

means for gathering information about the topology and detecting topology changes in communication with the data collection API (column 14, lines 21-67; column 15, lines 1-67);

wherein this means for gathering/detecting provides the network topology information requested by the client to the data collection API, the data collection API providing the network topology information to the client (column 5, lines 26-29; column 15, lines 23-67).

Regarding claim 22, as similarly discussed above with regard to claim 1, Sondur et al. disclose a method of collecting optical communications network topology the method comprising:

receiving a request for network topology information from a client at a data collection application program interface (engine 206, which is part of topology service 112, provides an API; column 5, lines 1-3 and 26-29; column 8, lines 26-35);

generating a command for the network topology information to means for gathering information about the topology and detecting topology changes (column 14, lines 21-67; column 15, lines 1-67)

providing the network topology information to data collection API., the data collection API providing the network topology information to the client (column 5, lines 26-29; column 15, lines 23-67).

Further regarding both claims 1 and 22, Sondur et al. do not specifically disclose that the means for gathering information about the topology and detecting topology changes is implemented as a topology gatherer module and a topology change module. However, Sondur et al. do generally suggest modular implementation in order to allow parts of the system to be independently changed or upgraded without disturbing other parts (column 5, lines 2-6). It would have been obvious to a person of ordinary skill in the art to use modules as generally suggested by Sondur et al. in the system disclosed by Sondur et al. in order to more easily provide upgrades to the topology gathering and topology change detecting functions of the system.

Further regarding both claims 1 and 22, Sondur et al. do not specifically disclose an optical communications network. However, optical networks are generally well known in the art,

and Wilson et al. further teaches that topology information may be gathered from an optical network (pages 2043-2045, section "B. Configuration Management").

Further regarding both claims 1 and 22, Sondur et al. do not specifically disclose a gateway node module. However, Sondur et al. in view of Wilson et al. already teach that the optical communications network generally includes nodes and/or client equipment connected by a plurality of channels (Wilson et al., pages 2040-2043, section "III. Information Model"). Wilson et al. further teach means for determining the topology of an optical communications network and teach that determining the topology includes obtaining information about gateway nodes (referred to in their disclosure as connection termination points [CTPs]; see pages 2040-2043, section "III. Information Model" and Figures 3-6)

Regarding claims 1 and 22, it would have been obvious to a person of ordinary skill in the art to use the network element as disclosed by Sondur et al. in an optical network as taught by Wilson et al. and to include a gateway node module as suggested by Wilson et al. in order to effectively collect complete topology information about the configuration of elements in an optical network and thereby provide better management of the system.

Regarding claims 21 and 42, Sondur et al. do not specifically disclose autonomous messages, but Wilson et al. further teach providing notifications/messages upon detecting changes in the network (page 2056, section "F. Connection Creation Notifications"). It would have been obvious to a person of ordinary skill in the art to provide autonomous messages as suggested by Wilson et al. in the system described by Sondur et al. in view of Wilson et al. in order to provide updated information about the network more efficiently (i.e., without having to repeatedly collect information about the entire network).

Regarding claims 2-5 and 23-26, Sondur et al. in view of Wilson et al. already teach that the optical communications network generally includes nodes and/or client equipment connected by a plurality of channels as discussed above, and Sondur et al. disclose means for topology gathering and discloses generating and forwarding a request object to network elements to obtain information from the elements by receiving response from them (column 14, lines 21-67; column 15, lines 1-67). Although Sondur et al. do not specifically disclose channel connection trail data, Wilson et al. further teach that the topology of an optical network can be defined by information including channel connection trail data including network element addresses and port identifiers for elements carrying the channel (see pages 2040-2043, section "III. Information Model"). It would have been obvious to a person of ordinary skill in the art to obtain channel connection trail data as suggested by Wilson et al., in the system and method described by Sondur et al. in view of Wilson et al., in order to effectively gather complete information about the entire topology of the optical communications network. One in the art would have been particularly motivated to request that information since Wilson et al. teach that such information is directly related to the determination and definition of the optical communication network topology itself.

Regarding claims 6-8 and 27-29, Sondur et al. discloses means for topology gathering but do not specifically disclose channel end-to-end connection data. However, Wilson et al. further teach that the topology of an optical network can be defined by information including channel end-to-end connection data including network element addresses and port identifiers for elements originating and terminating the channels (see pages 2040-2043, section "III. Information Model"). It would have been obvious to a person of ordinary skill in the art to obtain channel end-to-end connection data as suggested by Wilson et al., in the system and method

described by Sondur et al. in view of Wilson et al., in order to effectively gather complete information about the entire topology of the optical communications network. One in the art would have been particularly motivated to request that information since Wilson et al. teach that such information is directly related to the determination and definition of the optical communication network topology itself.

Regarding claims 9-11 and 30-32, Sondur et al. discloses means for topology gathering but do not specifically disclose client mapping data for a channel. However, Wilson et al. further teach that the topology of an optical network can be defined by information including client mapping data for a channel on the network including client addresses and port identifiers for clients carrying the channel where the channel originates or terminates (see pages 2040-2043, section "III. Information Model"). It would have been obvious to a person of ordinary skill in the art to obtain client mapping data as suggested by Wilson et al., in the system and method described by Sondur et al. in view of Wilson et al., in order to effectively gather complete information about the entire topology of the optical communications network. One in the art would have been particularly motivated to request that information since Wilson et al. teach that such information is directly related to the determination and definition of the optical communication network topology itself.

Regarding claims 12-16 and 33-37, Sondur et al. discloses means for detecting topology changes based on a database 114 (Figure 1). Although Sondur et al. do not specifically disclose channels in an optical communication network, Sondur et al. in view of Wilson et al. already teach that the optical communications network generally includes nodes and/or client equipment connected by a plurality of channels as discussed above. Wilson et al. further disclose that the

topology of an optical network includes information related to the channels including information regarding whether a channel has been added or deleted or becomes incomplete or stale (pages 2045-2048, section "C. Connection Management"). It would have been obvious to a person of ordinary skill in the art to obtain channel status information as suggested by Wilson et al., in the system and method described by Sondur et al. in view of Wilson et al., in order to effectively detect up-to-date information about the entire topology of the optical communications network. One in the art would have been particularly motivated to request that information since Wilson et al. teach that such information is directly related to the determination and definition of the optical communication network topology itself.

Regarding claims 17-20 and 38-41, Sondur et al. in view of Wilson et al. already teach obtaining gateway node information as discussed above with regard to claims 1 and 22. Wilson et al. further teach that such gateway node information includes information regarding the identification of network elements where channels originate or terminate in the network (including addresses of network elements and port identifiers where channels originate and terminate) and regarding distances to originating network elements (again, Wilson et al. refer to gateway nodes in their disclosure as connection termination points [CTPs]; see pages 2040-2043, section "III. Information Model" and pages 2045-2048, section "C. Connection Management"). It would have been obvious to a person of ordinary skill in the art to obtain gateway node information as suggested by Wilson et al., in the system and method described by Sondur et al. in view of Wilson et al., in order to effectively detect information about the entire topology of the optical communications network. One in the art would have been particularly motivated to

request that information since Wilson et al. teach that such information is directly related to the determination and definition of the optical communication network topology itself.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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